

# A Radiator Valve That Can't Leak



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From the time of their inception until recently, radiator valves were the only item of heating equipment that had, for all practical purposes, remained unchanged in design and therefore in efficiency and appearance. True, there have been valves placed on the market which were referred to as of the packless type, but faults in construction and design have caused them to be held in disfavor and their appearance has not been an improvement over that of the competitive type of valve. The tendency over the entire period has been, not how well, but how cheaply could radiator valves be made.

For the architect, the heating engineer and the contractor, as well as for the owner of any building who wanted a radiator valve better than the ordinary, there was little choice. There was but one type of valve with some slight variations in the quality of finish. Even taking the best that could be obtained for the finest residences, hotels and office buildings, it was, after all, exactly the same kind of valve found in the cheapest tenement house.

In the better class of buildings, to say the least, the unsightliness, as well as the annoyance and damage due to the inherent

defects existing in the usual type of radiator valve, had become a serious problem.

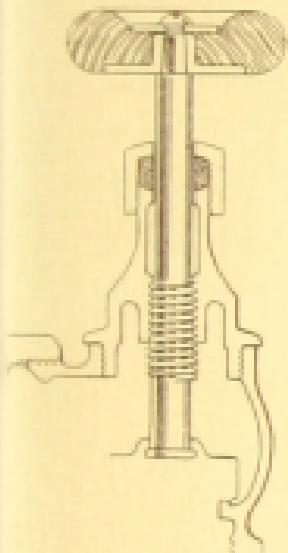
A majority of the objections to the ordinary type of valve are due to the troubles resulting from the stuffing box and packing employed to keep water and steam from

leaking out around the valve stem. This packing is generally of the oil-soaked wick type and deteriorates quickly. The heat dries it up, the turning of the stem wears it out and disintegration is rapid, although the evidences of it may not always be apparent, for the reason that the expansion of the packing and metal parts caused by heat is apt to keep the joint tight and prevent leakage until the

system has cooled off when the heat goes down at night. A pool of water is often found in the morning under a valve that during the day appears to be in good condition.

So frequently do radiator valves get in a condition where they leak around the stem that it is a comparatively rare experience to find an office building, residence or other structure with steam or hot water heat which has not suffered some damage from the use of valves of the packed type.

Stained and discolored walls and ceilings, loose plaster, spoiled floors, rugs and furni-

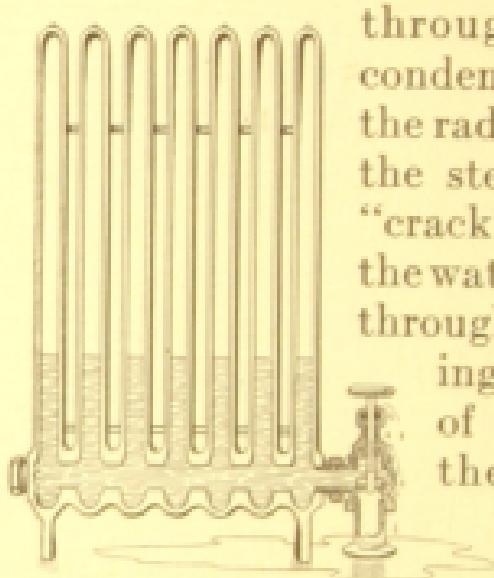


Sectional view of  
stuffing box on an  
ordinary packed  
radiator valve.

ture are the most common evidences, to nothing of the filthy appearing valves, to rusty water from inside the system leaking down over the hot valve and being baked on its surface.

Trouble is experienced, and always will be experienced with valves of the packed type, from what is known as a "cracked valve."

This condition results when the valve in a single pipe heating system is nearly, but not quite, closed and enough steam see-



What happens when a radiator with a leaky valve fills with water.

through the opening and begins to condense and begin to fill the radiator with water. The steam pressure at the "crack" is sufficient to keep the water from flowing back through so small an opening.

ing, a considerable head of water is built up in the radiator. If the valve is of the ordinary packed type, it is bound, sooner or later, to leak.

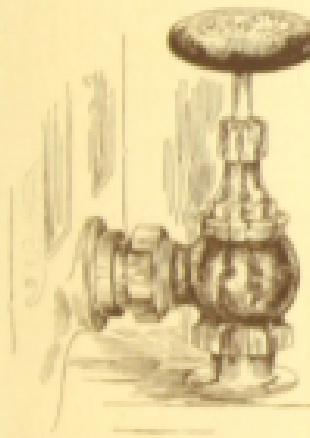
around the stem and when the water rises in the radiator as high as the stuffing box, will be forced through the leak. The result is damage and in addition a radiator out of commission until the valve can be repacked—perhaps in the coldest weather.

Not only are these troubles a source of continual annoyance to the tenant and

owner—they are also the cause of constant expense and inconvenience from the necessity of having the valves repacked at frequent intervals. This expense mounts up—not so much from the actual cost of the material as from the time involved in the work and the delay in getting to it. It is not uncommon to find in large buildings an employe whose time is principally occupied in repacking radiator valves.

The ordinary valve is not only the cause of damage and expense—it is also a source

of annoyance because of its appearance. When new it could hardly be considered an ornament, and in the course of time it becomes a jarring note in the ensemble of any well furnished and well decorated room. The indifferent finish becomes tarnished, discolored and streaked from the leakage of oily and rusty



Leaky valves are unsightly—stained and streaked by rusty, oily water.

water, and the recess in the top of the handle is filled with dirt. A glance at the average valve will generally show its unsightly condition.

Naturally there has been a demand for a radiator valve of better appearance and one that would not give trouble by leaking around the stem.

In order to meet the demand for a valve that would be a quality product throughout the world the Detroit Lubricator Company concentrated all of their skill, experience and facilities of the largest manufacturer in the world of valves for heating purposes upon the production of a radiator valve that would give the service expected, free from the faults found in all other valves of various types and possess an appearance that would not clash with the most beautiful decorations and furnishings. After extensive experimental work and the most exhaustive tests a *totally new and distinct type of valve* was developed and proved to be absolutely right in every way—

Detroit Packless Radiator Valve.

Detroit Packless Valves are absolutely tight and they always *stay* tight. They give freedom from *all* the troubles common to valves of the packed type.

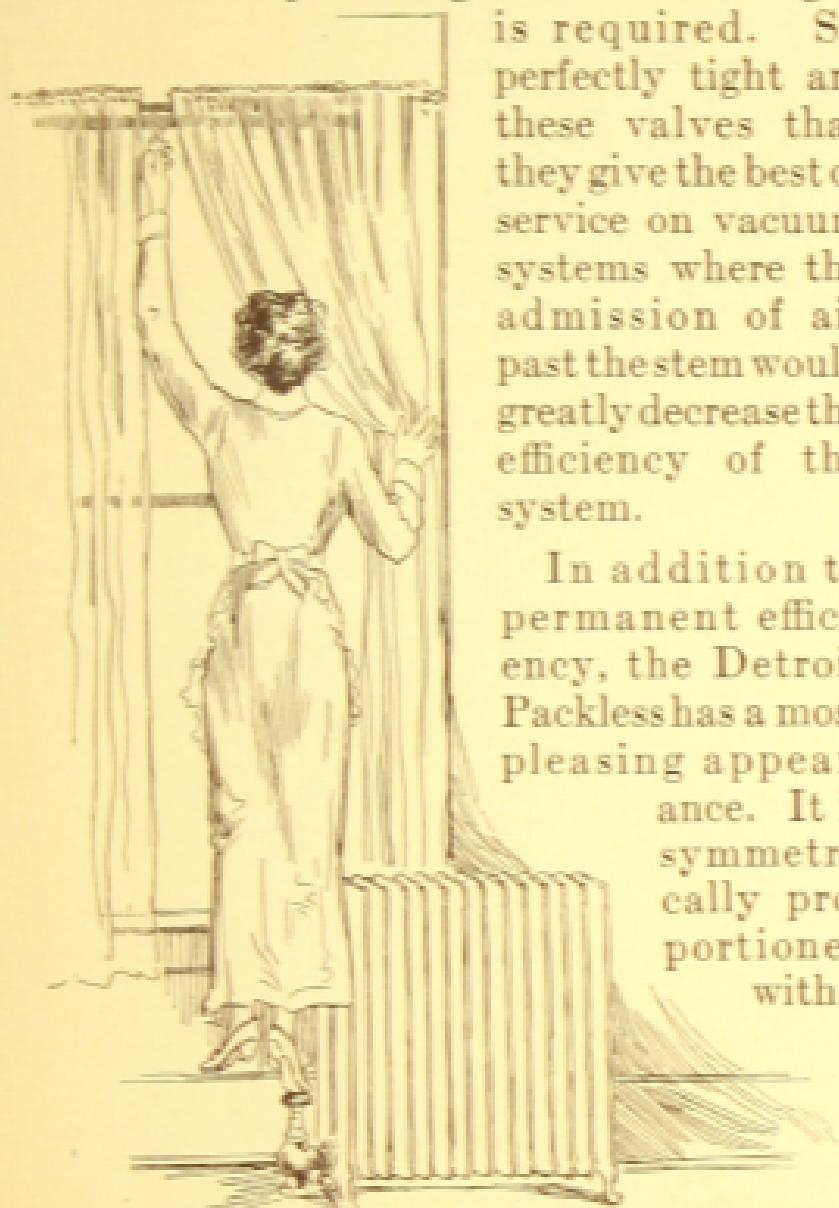
Their efficiency is guaranteed by most careful workmanship on accurate chines—checked up by rigid inspection and searching tests. The painstaking processes employed in production give what is known in shop parlance as “watch-maker accuracy.”

The permanence of this perfect construction is insured by the design. Simplified design guards against derangement of parts during any ordinary usage. Abuse of all kinds, such, for example, as stepping

the handle, has no effect on it. These valves are fool-proof and the internal mechanism cannot be tampered with from the outside. They are strong and sturdy, with more than ample strength wherever strength

is required. So perfectly tight are these valves that they give the best of service on vacuum systems where the admission of air past the stem would greatly decrease the efficiency of the system.

In addition to permanent efficiency, the Detroit Packless has a most pleasing appearance. It is symmetrically proportioned with a



Stepping on the handle does not damage a Detroit Packless Valve.

smooth satin finish on the metal surfaces never before equalled or even approached in radiator valve construction. The finish lasts.



Damage from leaking water and  
are common wherever

Detroit Packless Valves are made to accord and harmonize with the most beautiful surroundings and to retain that appearance always.

The highly finished mahogany handle is protected from damage by a cloth bag which is not removed until after installation and the completion of decorating. This



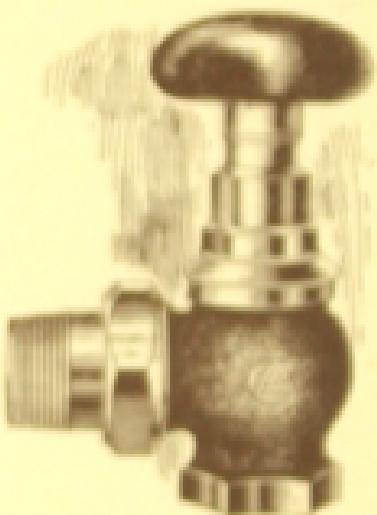
ice and expense of frequent repacking  
in packed type are installed

handle will not crack or split and as a further precaution in keeping it cool there are ventilating holes in the handle follower.

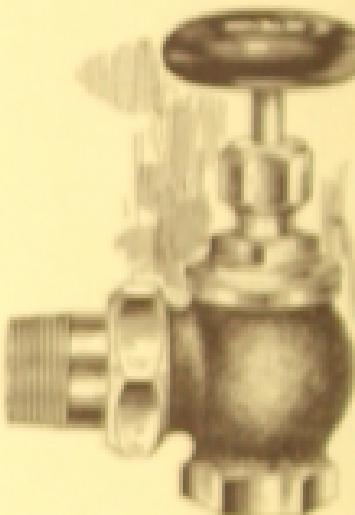
The handles are large, easy-turning, nicely proportioned and of the right size and shape for a satisfactory grip without possibility of the hand coming in contact with hot metal. There is no recess in the

top, where dirt always collects in other valves, and the smooth, rounded surface is easy to keep clean.

For the man who wants to be certain that the valves he selects will be absolutely free from the troubles common to valves of the packed type and that their appearance, as well as their service, will be all that can be desired—there is an absolutely *sure* way to specify Genuine Detroit Packless Radiator Valves, made by the Detroit Lubricator Company.



A Detroit Packless



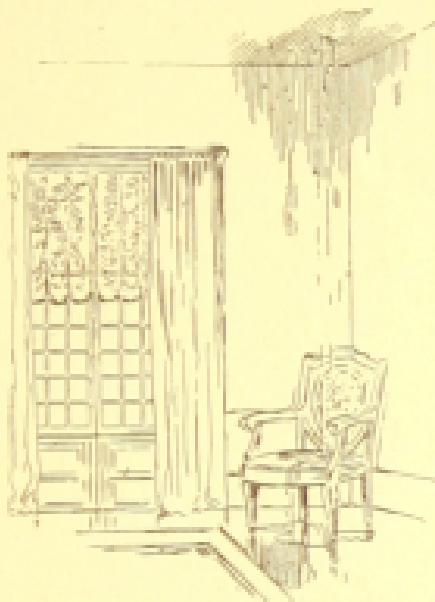
An Ordinary Valve

Compare the strong, symmetrical Packless with the other. Notice particularly the packless feature.

To the architect they are a guaranty of satisfied clients. To the heating contractor their use not only insures the absence of unfavorable criticism, but instead, induces most favorable comment. Owners of buildings where Detroit Packless Valves are installed know that *the initial cost is the whole cost*—that there will be no subsequent

expenditures for repairs to the buildings, no complaints from tenants of damaged furniture and no annoyance and expense in keeping the valves in good condition.

The difference in cost between ordinary cheap valves and genuine Detroit Packless Valves, made by the Detroit Lubricator Company, is slight. It is negligible in view of the advantages to be gained in service and in appearance. It represents insurance—insurance of constant satisfaction and continued protection against damage and expense. It means the difference between a good valve and a poor one.



The danger of serious injury to ceilings, walls, furniture and decorations is always imminent where valves of the packed type are installed

### *Form of Specification*

*"All radiator valves to be Genuine Detroit Packless, manufactured by the Detroit Lubricator Company."*

*If the stock numbers identifying the types of valves are given in the specifications the possibility of a mistake will be avoided.*

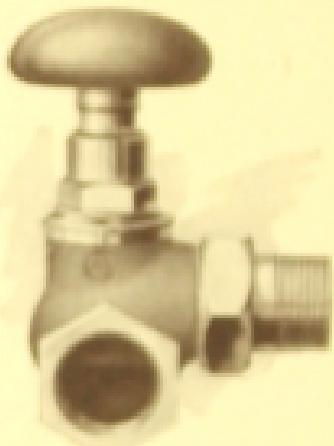
# Detroit Packless Radiator Valves



No. 260



No. 261



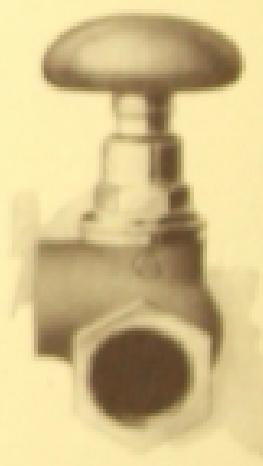
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No. 263

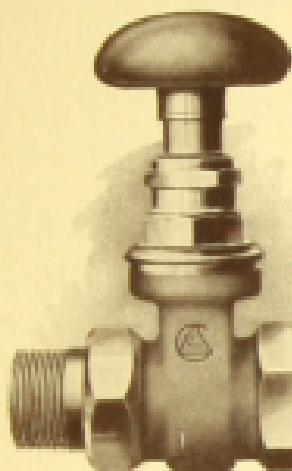


No. 264



No. 265

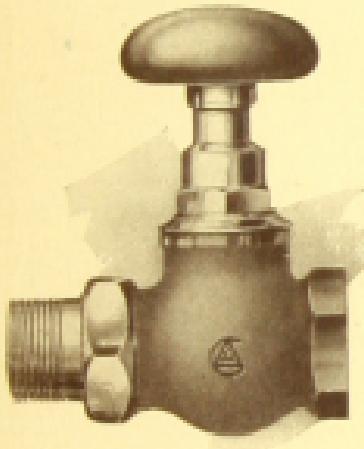
# Detroit Packless Radiator Valves



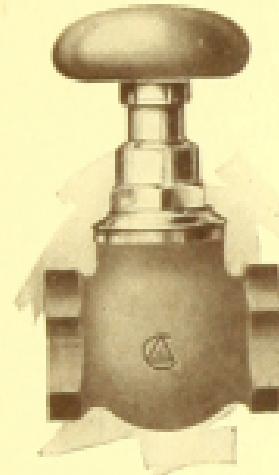
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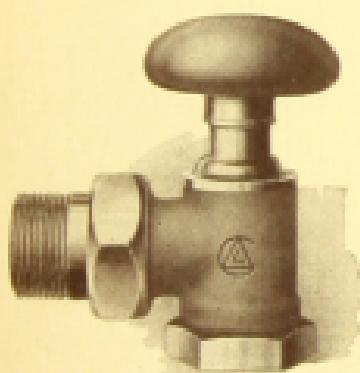
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No. 280



No. 281



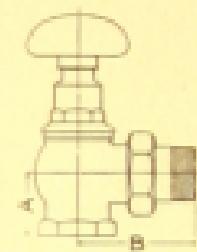
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No. 291

# Detroit Packless Radiator Valves

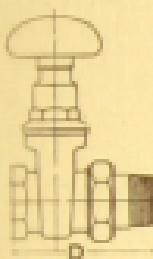
## Roughing-In Dimensions



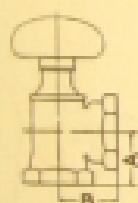
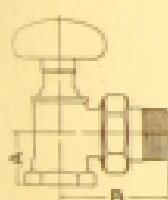
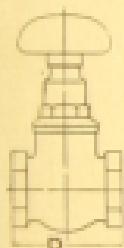
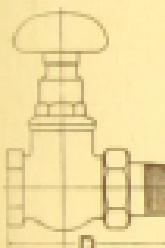
Size	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
260	A	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2\frac{1}{8}$
	B	$2\frac{1}{16}$	$2\frac{5}{8}$	$3\frac{3}{16}$	$3\frac{1}{2}$	$4$
261	A	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$2\frac{1}{8}$
	B	$1\frac{7}{16}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{1}{4}$	$2\frac{1}{8}$
262	B	$2\frac{9}{16}$	$2\frac{11}{16}$	$3\frac{3}{16}$	$3\frac{1}{4}$	$3\frac{11}{16}$
	E	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$1\frac{5}{8}$
263	C	$1\frac{5}{16}$	$1\frac{1}{16}$	$1\frac{1}{16}$	$1\frac{1}{4}$	$2\frac{3}{16}$
	E	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$1\frac{5}{8}$
264	B	$1\frac{11}{16}$	$1\frac{1}{16}$	$1\frac{1}{16}$	$1\frac{1}{16}$	$2\frac{1}{8}$
	E	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$1\frac{5}{8}$
265	C	$1\frac{11}{16}$	$1\frac{1}{16}$	$1\frac{1}{16}$	$1\frac{1}{8}$	$2\frac{3}{16}$
	E	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$2\frac{3}{16}$

# Detroit Packless Radiator Valves

## Roughing-In Dimensions



Size	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
266—D	$3\frac{5}{16}$	$3\frac{3}{16}$	4	$4\frac{1}{16}$	$5\frac{1}{8}$	$5\frac{1}{4}$
267—D	$2\frac{1}{8}$	$2\frac{1}{4}$	$2\frac{9}{16}$	$2\frac{1}{8}$	$3\frac{1}{4}$	$3\frac{1}{2}$
280—D	$3\frac{3}{8}$	$3\frac{15}{16}$	$4\frac{11}{16}$	$5\frac{1}{16}$	$5\frac{11}{16}$	$7\frac{1}{8}$
281—D	$2\frac{1}{8}$	$2\frac{5}{8}$	$3\frac{1}{16}$	$3\frac{5}{8}$	$4\frac{1}{16}$	$5\frac{1}{16}$
290	(A) $1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{11}{16}$	$1\frac{11}{16}$	$2\frac{3}{8}$
		$2\frac{3}{8}$	$2\frac{5}{8}$	3	$3\frac{1}{2}$	$3\frac{7}{8}$
291	(A) $1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{11}{16}$	$1\frac{11}{16}$	$2\frac{3}{8}$
		$1\frac{7}{16}$	$1\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{11}{16}$	$2\frac{1}{16}$



GENUINE Detroit  
G Radiator Valves  
are made in the largest  
plant in the world devoted  
to the manufacture of  
valves for heating purposes



Bridgman Bros. Co.  
PHILADELPHIA, PA.